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NASA TECH BRIEF

Radioactive Tracer System Detects Oil Contaminants in Fluid Lines

The problem:

To detect and monitor lubricating oil contamination in high-pressure fluid lines. Present practice, which involves periodic sampling and laboratory testing of the gas downstream of the compressor, is time consuming and does not ascertain the degree of contamination between tests.

The solution:

Use a radioactive tracer system.

How it's done:

A radioactive tracer in the microcurie dosage range is introduced into the crankcase of the compressor. A radiographic detector and counter installed on the downstream side of the line monitor the gas flow and actuate a solenoid-controlled shutoff valve when oil contamination reaches a predetermined level.

Notes:

1. This continuous detection system is only in the conceptual stage. Neither a model nor a prototype has been built as of the date of this Tech Brief.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama, 35812
   Reference: B66-10090

Patent status:

No patent action is contemplated by NASA.

Source: Benjamin Roth
of North American Aviation, Inc.,
under contract to
Marshall Space Flight Center
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